DT04 Rec'd PCT/PTO 15 OCT 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Cancelled)

2. (Currently Amended) The charge control circuit as claimed in claim ~~1~~ 16, characterized in that the state monitoring means (11, 13, 17) of a parallel branch (3) are set to switch the controllable switch (15) to the interrupted state when it detects a battery state "parallel branch fully charged".

3. (Currently Amended) The charge control circuit as claimed in claim ~~1 or 2~~ 16, characterized in that the parallel branch (3) are formed from identical groups of series-connected battery elements (9) which are connected in series with the respective controlled switch (15).

4. (Currently Amended) The charge control circuit as claimed in ~~one of the preceding claims~~ claim 16, characterized in that the state monitoring means (11, 13, 17) comprise temperature sensors (11) for detecting the battery temperature in the individual parallel branches (3).

5. (Original) The charge control circuit as claimed in claim 4, characterized in that the state monitoring means (11, 13, 17) of a relevant parallel branch (3) are set to switch the controllable switch (15) of the parallel branch (3) to the interrupted state when the battery temperature detected by the temperature sensor (11) in the parallel branch (3) exceeds a predetermined temperature value.

6. (Currently Amended) The charge control circuit as claimed in ~~one of the preceding claims~~ claim 16, characterized in that the state monitoring means (11, 13, 17) comprise current measuring devices (13, 17) for detecting the current flowing through the individual parallel branch (3).

7. (Original) The charge control circuit as claimed in claim 6,
characterized in that the state monitoring means (11, 13, 17) are set to switch the controllable switch (15) of the relevant parallel branch to the interrupted state when the charge current flowing through the parallel branch (3) exceeds a predetermined current value for the duration of a predetermined time interval.

8. (Currently Amended) The charge control circuit as claimed in ~~one of the preceding claims~~ claim 16,
characterized in that the state monitoring means (11, 13, 17) are set to switch the controllable switch (15) of the respective parallel branch (3) to the interrupted state when the change in the battery temperature per unit time exceeds a comparison value depending on the respective charge current through the parallel branch (3).

9. (Currently Amended) The charge control circuit as claimed in ~~one of the preceding claims~~ claim 16,
characterized in that the state monitoring means (11, 13, 17) comprise a safety timer (13), and in that the state monitoring means (11, 13, 17) switch the controllable switch of the respective parallel branch to the interrupted state when a charge time interval, which is determined by the timer (13) on the basis of the charge current flowing through the relevant parallel branch (3), has expired.

10. (Currently Amended) The charge control circuit as claimed in ~~one of the preceding claims~~ claim 16,
characterized
in that the state monitoring means (11, 13, 17) comprise a respective microprocessor (13) per parallel branch (3) for the purpose of controlling the respective switch (15).

Claim 11 (Cancelled)

12. (Original) The discharge control circuit as claimed in claim ~~11~~ 17,
characterized in that the controllable switches (15) are transistors, in particular field-effect transistors.

13. (Currently Amended) The discharge control circuit as claimed in claim ~~11 or 12~~ 17,
characterized in that the state monitoring means comprise at least one microprocessor (13, 19), preferably at least in each case one microprocessor (13) for each parallel branch (3).

14. (Currently Amended) A battery control circuit, comprising the charge control circuit as claimed in ~~one of claims 1 – 10~~ claim 16 and a discharge control circuit combined therewith, wherein the discharge control circuit comprising state monitoring means (11, 13, 17) and switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow, each parallel branch having, in series with the battery voltage source (3) comprising one or more battery elements (9) represented by it, a respective controllable switch (15) having an integrated diode (23), or one which is connected in parallel therewith, which is conductive in the discharge current flow direction,
characterized in that the state monitoring means (13) are set so as to switch the respective controllable switch (15) from a high-resistance state to a low-resistance state when a discharge current having a minimum current level flows through the diode (23) ~~as claimed in one of claims 11 – 13 combined therewith~~.

15. A battery pack having the charge control circuit as claimed in ~~one of claims 1 – 10~~ claim 16 integrated therein ~~and/or having the discharge control circuit as claimed in one of claims 11 – 13~~.

16. (New) A charge control circuit for a battery pack comprising rechargeable battery elements (9) which are arranged in respective parallel branches (3) of a parallel circuit of battery voltage sources, the charge control circuit comprising state monitoring means (11, 13, 17) for monitoring the battery state of battery elements (9), and the charge control circuit comprising switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow,
characterized in that each parallel branch (3) has associated state monitoring means (11, 13, 17), and in that a respective switch (15) is provided in each parallel branch (3), it being possible for said respective switch (15) to be controlled on the basis of the battery state, which is monitored by the state monitoring means (11, 13, 17), of the relevant parallel branch (3), in order to selectively block or release only this relevant parallel branch (3) for the current flow.

17. (New) A discharge control circuit for a battery pack comprising rechargeable battery elements (9), which are arranged in respective parallel branches of a parallel circuit of battery voltage sources (3), the discharge control circuit comprising state monitoring means (11, 13, 17) and switches (15), which can be controlled by the state monitoring

means, for interrupting the current flow or releasing the current flow, each parallel branch having, in series with the battery voltage source (3) comprising one or more battery elements (9) represented by it, a respective controllable switch (15) having an integrated diode (23), or one which is connected in parallel therewith, which is conductive in the discharge current flow direction,
characterized in that the state monitoring means (13) are set so as to switch the respective controllable switch (15) from a high-resistance state to a low-resistance state when a discharge current having a minimum current level flows through the diode (23).

18. (New) A battery pack having the discharge control circuit as claimed in claim 17 integrated therein.

19. (New) A battery pack having the charge control circuit as claimed in claim 16, integrated therein and also having integrated therein a discharge control circuit which comprises state monitoring means (11, 13, 17) and switches (15), which can be controlled by the state monitoring means, for interrupting the current flow or releasing the current flow, each parallel branch having, in series with the battery voltage source (3) comprising one or more battery elements (9) represented by it, a respective controllable switch (15) having an integrated diode (23), or one which is connected in parallel therewith, which is conductive in the discharge current flow direction,
characterized in that the state monitoring means (13) are set so as to switch the respective controllable switch (15) from a high-resistance state to a low-resistance state when a discharge current having a minimum current level flows through the diode (23).